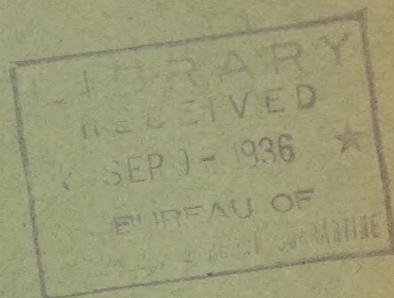


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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
INSECTICIDE DIVISION

Patent List No. 40



A LIST OF
UNITED STATES PATENTS
Issued from 1917 to 1933 inclusive
relating to
APPARATUS FOR WASHING INSECTICIDE RESIDUES
FROM FRUITS AND VEGETABLES
PART V MISCELLANEOUS DEVICES

Compiled by

R. C. Roark

Washington, D. C.
November, 1934.

A LIST OF UNITED STATES PATENTS ISSUED FROM 1917 TO 1933, INCLUSIVE,
RELATING TO APPARATUS FOR WASHING INSECTICIDE RESIDUES FROM FRUITS AND VEGETABLES.

Compiled by

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Insecticide Division, Bureau of Entomology and Plant Quarantine

This list includes fifty-four patents or devices for washing or polishing fruit as it is carried through the apparatus.

Every effort has been made by the compiler to make this list of patents complete and no discrimination is intended against any patent mention of which is inadvertently omitted.

The Department of Agriculture assumes no responsibility for the merits or workableness of any of the patents, nor does it recommend any of the inventions mentioned.

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1,222,645 (Apr. 17, 1917; appl. Apr. 21, 1913). BRUSH CONSTRUCTION. Charles C. McIntosh, Los Angeles, Calif. - George D. Parker, Riverside, Calif. - This invention relates to brushes of the type employed in fruit treating machines for polishing, brushing or drying fruit.

1,234,698 (July 24, 1917; appl. Mar. 16, 1914). APPARATUS FOR STEMMING FRUIT. John B. Foote, Oak Park, Ill. - A machine for removing stems from cherries is described.

1,279,844 (Sept. 24, 1918; appl. Feb. 7, 1918). NUT-MEAT-CLEANING APPARATUS. Homer L. Cole and Fern S. Hishop, Santa Ana, Calif. - A power actuated apparatus that will clean foreign matter such as shell particles, worm eggs and discolorations from the meats of nuts and render them merchantable is described.

1,296,130 (Mar. 4, 1919; appl. May 13, 1918). FRUIT-CLEANER. Fred Stebler, Riverside, Calif. - A fruit cleaner for citrus or other fruits which may be used as an elevator or conveyor for citrus or other fruits, so that the fruit while being cleaned may be conveyed or elevated to a drier or to any desired place for packing of the fruit or for other purposes is described.

1,296,131 (Mar. 4, 1919; appl. May 13, 1918). FRUIT-CLEANING MACHINE. Fred Stebler, Riverside, Calif. - This machine is useful in cleaning citrus fruits such as oranges and lemons, and is particularly applicable to the cleaning of oblong fruits such as lemons.

1,307,693 (June 24, 1919; appl. Oct. 28, 1918). MACHINE FOR CLEANING DATES. James H. Northrop, Indio, Calif. - This invention provides means for removing dust and other substances from outside the skin of the date, without injury to the fruit.

1,319,541 (Oct. 21, 1919; appl. Apr. 5, 1919). CITRUS-FRUIT WASHER AND DRIER. Theodore Wang, Clearwater, Fla. - A machine for washing, drying and polishing citrus fruit is described.

1,357,794 (Nov. 2, 1920; appl. Feb. 4, 1920). FRUIT-CLEANING MACHINE. Andrew O. Moe, Toppenish, Wash. - This invention provides a fruit cleaning machine designed for subjecting apples and similar fruit to an effective, repeated wiping and brushing action to insure thorough cleaning and polishing of the fruit and without danger of bruising or otherwise injuring the same.

1,388,630 (Aug. 23, 1921; appl. June 19, 1920). VEGETABLE-CLEANER AND THE LIKE. Herbert E. Collett, Philadelphia, Pa. - This invention provides a device which will rapidly remove the outer skin from potatoes and other like vegetables and from apples or other like fruits.

1,407,501 (Feb. 21, 1922; appl. Oct. 19, 1921). MACHINE FOR WASHING AND POLISHING FRUIT AND VEGETABLES. Fred L. Webster, Adams, N. Y. - A device of this character in which the fruit or vegetables to be cleaned is subjected to a brushing and cleaning action of uniform pressure while it is moved progressively through the machine is described.

1,417,266 (May 23, 1922; appl. Feb. 2, 1922). FRUIT CLEANING AND BRUSHING MACHINE. Rex. D. O. McDill, Haines City, Fla. - Walter E. Richardson, Beaufort, S. C. - A machine which will clean and polish such fruit as oranges and grapefruit prior to packing same for shipment is described.

1,418,666 (June 5, 1922; appl. Feb. 1, 1922). POLISHING MACHINE. Edward N. Maull, Orlando, Fla. - Skinner Machinery Co., Dunedin, Fla. - An apparatus for polishing fruit, as for example oranges, is described.

1,419,399 (June 13, 1922; appl. Feb. 1, 1922). WASHING APPARATUS. Edward N. Maull, Orlando, Fla. - Skinner Machinery Co., Dunedin, Fla. - A washing apparatus, designed particularly for washing citrus fruits such as oranges and the like is described.

1,420,062 (June 20, 1922; appl. Feb. 1, 1922). POLISHING APPARATUS. Bronson C. Skinner, Dunedin, Fla. - Skinner Machinery Co., Dunedin, Fla. - An apparatus for polishing fruit, particularly citrus fruit is described.

1,457,861 (June 5, 1923; appl. Sept. 5, 1922). FRUIT CLEANER. Fred Stebler, Riverside, Calif. - Stebler Parker Co.,

Riverside, Calif. - This invention provides a device for cleaning fruit by a scrubbing action of brush members arranged and operated to clean the fruit passing through the device.

1,461,134 (July 10, 1923; appl. Dec. 13, 1922). BUFFING MACHINE. Edward N. Maull, Orlando, Fla. - Skinner Machinery Co., Dunedin, Fla. - This invention relates to machinery designed for the cleaning, buffing or polishing of the surface coatings of citrus fruits and the like.

1,464,775 (Aug. 14, 1923; appl. May 18, 1922). FRUIT CLEANER. John A. Reuter, The Dalles, Ore. - National Fruit Cleaner Co., The Dalles, Ore. - Means for effectively cleaning fruit that has received a late spraying after the fruit has formed, without removing the coating provided by nature, which resembles paraffin is described.

1,476,113 (Dec. 4, 1923; appl. Sept. 5, 1922). FRUIT-HANDLING APPARATUS. Fred Stebler, Riverside, Calif. - Stebler Parker Co., Riverside, Calif. - This invention relates to machines for handling and cleaning fruit, wherein means are provided for automatically conveying the fruit through the machine in contact with cleaning devices.

1,495,758 (May 27, 1924; appl. May 7, 1923). VEGETABLE CLEANER. Henry W. Meyer, Indianapolis, Ind. - This invention relates to a machine for removing earth and the like from vegetables, etc., and is chiefly of service to the truck farmer and hot house producer.

1,509,447 (Sept. 23, 1924; appl. Feb. 23, 1924). POLISHING MACHINE. Bronson C. Skinner, Dunedin, Fla. - Skinner Machinery Co., Dunedin, Fla. - A polisher designed for conveying, brushing and polishing of fruits in general, particularly oranges, lemons, grapefruit and the like is described.

1,511,007 (Oct. 7, 1924; appl. Feb. 14, 1922). FRUIT-TREATING APPARATUS. Homer C. Ricketts, Winter Haven, Fla. - Brogdex Co., Winter Haven, Fla. - A machine for rubbing and brushing citrus fruit after it has been washed and dried and for applying a preservative coating of a sealing and waterproof material, e.g. paraffin with a volatile liquid vehicle such as gasoline, is described.

1,513,195 (Oct. 28, 1924; appl. Dec. 15, 1922). CLEANER AND POLISHER. Augustus R. Stevens, Lindsay, Calif. - Francis M. Stevens, Lindsay, Calif. - A cleaner and polisher for use in packing houses or the like, for the purpose of removing dirt, dust and other deleterious substances from the skins of fruit, such as oranges, lemons, grapefruit and the like is described.

1,522,724 (Jan 13, 1925; appl. Mar. 12, 1921). PORTABLE APPARATUS FOR CLEANING AND GRADING GRAIN, SEED, AND THE LIKE. Russell V. Judson, Detroit, Mich. - A portable outfit, for cleaning and sorting or grading grain, is described. The apparatus shown being especially designed to handle beans.

1,566,611 (Dec. 22, 1925; appl. July 30, 1924). FRUIT-CLEANING MACHINE. Charles H. Lister, Thonotosassa, Fla. - This invention provides a machine adapted to thoroughly and rapidly cleanse the rough, porous rinds of citrus fruit.

1,630,983 (May 31, 1927; appl. Nov. 15, 1926) FRUIT CLEANING AND POLISHING MACHINE. Boyd C. Sutherland, North Garden, Va. - This invention relates to a machine for wiping and polishing apples.

1,631,925 (June 7, 1927; appl. Dec. 1, 1924). FRUIT SCRUBBER AND POLISHER. Harry T. Demarest, Warwick, N. Y. - This device comprises a conveyor which carries fruit under a polishing means, e.g. a brush.

1,651,350 (Nov. 29, 1927; appl. Feb. 14, 1922). BUFFING APPARATUS. Charles M. Jamieson, Winter Haven, Fla. - Brogdex Co., Winter Haven, Fla. - A machine for buffing and polishing citrus fruit after it has been washed and dried, and applying a waxy preservative coating is described.

1,676,306 (July 10, 1926; appl. Oct. 15, 1926). FRUIT-CLEANING APPARATUS. Edward A. White, Lewiston, Idaho. - A machine for brushing fruit to remove dirt, dust, poison residue and other foreign matter is described.

1,689,653 (Oct. 30, 1928; appl. May 14, 1927). FRUIT CLEANING AND POLISHING MACHINE. Edwin M. Wayland and Allan H. McIntyre, Coveseville, Va. - A machine for cleaning and polishing fruit such as apples or peaches is described.

1,690,195 (Nov. 6, 1928; appl. Nov. 1, 1924). CITRUS-FRUIT BRUSHING AND POLISHING APPARATUS. Lewellyn N. Haley, Clearwater, Fla. - The present invention appertains to a citrus fruit brushing and polishing apparatus to which the fruit may be fed after which it will be thoroughly brushed and polished, when the apparatus is in operation, without further attention on the part of the attendant, said fruit being automatically delivered from the apparatus.

1,697,601 (Jan. 1, 1929; appl. Oct. 25, 1927). FRUIT WASHER. Lloyd E. Jones, Santa Monica, Calif. - This invention relates to rotary brushes of the type used in machines for washing or cleaning fruit, e.g. oranges.

1,740,868 (Dec. 24, 1929; appl. Aug. 31, 1925). FRUIT-WASHING MACHINE. Nicholas J. Ofstad, Redlands, Calif. - William L. Connor, Los Angeles, Calif. - A fruit washing machine in which each of the washing units embodies a linear arrangement of constantly moving brush elements co-operating with stationary brush elements, the latter being arranged to define tortuous passages or channels through which the fruit during the washing operation is caused to travel is described.

1,740,869 (Dec. 24, 1929; appl. Aug. 31, 1925). FRUIT-WASHING MACHINE. Nicholas J. Ofstad, Redlands, Calif. - William L. Connor, Los Angeles, Calif. - A fruit washing machine which operates automatically to thoroughly clean fruit of different sizes and contours and without in any way injuring the fruit is described.

1,740,870 (Dec. 24, 1929; appl. Dec. 5, 1925). FRUIT-WASHING MACHINE. Nicholas J. Ofstad, Redlands, Calif. - William L. Connor, Los Angeles, Calif. - A fruit-washing machine for oranges, lemons, etc., includes a V-shaped trough for conveying the fruit, the surfaces of the trough, if desired, being provided with cleaning or abrading surfaces.

1,757,308 (May 6, 1930; appl. Jan. 19, 1927). FRUIT CLEANER. Harry A. Ingraham, Zillah, Wash. - A machine for removing from fruit dust or like deposits resulting from spraying with Bordeaux mixture, arsenate of lead, or other insect or fungus-destroying liquids is described.

1,763,883 (June 17, 1930; appl. May 8, 1929). FRUIT TUMBLER AND CONVEYOR. Fred S. Colvin and John V. Rogers, Yakima, Wash. - A tumbler and conveyor suitable for use in acid baths or washers for fruit utilizes a plurality of longitudinally positioned rollers fitted with spaced radial fingers, the fingers of one roller passing through the interdigital spaces of the adjacent rollers and they rotate.

1,776,784 (Sept. 30, 1930; appl. June 18, 1928). EGG-CLEANING APPARATUS. Lester G. Cramer, Petaluma, Calif. - One-half to Fay Johnson, Petaluma, Calif. - An apparatus which will entirely wash and scrub eggs over the entire surface thereof without manual attention or handling being necessary other than to feed the eggs to the machine is described.

1,777,039 (Sept. 30, 1930; appl. Nov. 25, 1927). RUBBING APPARATUS. Hugh B. Hatch, Dunedin, Fla. - Florida Citrus Machinery Co., Dunedin, Fla. - A brush roll device for rubbing and polishing globular objects, particularly vegetables and fruit such as oranges, grapefruit, tangerines and the like, is described.

1,780,924 (Nov. 11, 1930; appl. Mar. 2, 1928). FRUIT-CLEANING MACHINE. Harry A. Ingraham, Zillah, Wash. - This invention relates to machines for removing from fruit dust or like deposits resulting from spraying with Bordeaux mixture, arsenate of lead, and other insect or fungus-destroying liquids.

1,837,610 (Dec. 22, 1931; appl. Oct. 6, 1928). CLEANING MACHINE. Joan J. M. Elias, Wassenaar, Near the Hague, Netherlands. - This invention relates to machines for use in cleaning harvested or dug crops lying on the ground, such as sugar cane, beets, potatoes, and other agriculture products from dirt, leaves and rubbish.

1,884,264 (Feb. 9, 1932; appl. Mar. 21, 1929) FRUIT CLEANING MACHINE. Bronson C. Skinner, Dunedin, Fla. - Florida Citrus Machinery Co., Dunedin, Fla. - A machine adapted for either wet or dry cleaning of citrus fruit and the like comprises a rotary brush

and an adjacent, inclined, rubbing board forming a runway for the fruit.

1,848,309 (Mar. 8, 1932; appl. Aug. 1, 1922; divided and this application filed Sept. 6, 1923; renewed Mar. 18, 1930). APPARATUS FOR TREATING FRUIT AND THE LIKE. Ernest M. Brogden, Pomona, Calif. - Brogdex Co., Winter Haven, Fla. - A brush roll machine for cleaning fruit and applying a waxy coating is described.

1,851,436 (Mar. 29, 1932; appl. May 12, 1930). BRUSH MOUNTING FOR FRUIT BRUSHES. Lloyd E. Jones, Santa Monica, Calif. - Food Machinery Corp., San Jose, Calif. - This invention relates to rotary brushes such as employed in the washing of citrus fruits or the like.

1,906,049 (Apr. 25, 1933; appl. Mar. 30, 1931). CLEAN-OUT MECHANISM. William DeBack, San Jose, Calif. - Food Machinery Corp., San Jose, Calif. - A device for cleaning out fruit remaining at the end of the run in apparatus of the type used for cleaning, drying and polishing fruit is described.

1,915,605 (June 27, 1933; appl. Feb. 7, 1931). BRUSH WHEEL STRUCTURE FOR FRUIT WASHERS. Earl G. Griffith, Los Angeles, Calif. - This invention relates to brushes and brush holders and is particularly adapted for use in a commercial fruit washer used for washing oranges, lemons, and grapefruit.

1,916,541 (July 4, 1933; appl. Mar. 30, 1931). MARKER FOR FRUIT BRUSHING MACHINES. Albert R. Thompson, San Jose, Calif. - Food Machinery Corp., San Jose, Calif. - Means for indicating the line of demarcation between successive lots of fruit undergoing cleaning, drying and polishing, and for preventing confusion due to the intermingling of different lots of fruit are described.

1,924,078 (Aug. 22, 1933; appl. May 12, 1928). APPARATUS FOR HANDLING FRESH FRUITS. Ernest M. Brogden, Pomona, Calif. - Brogdex Co., Los Angeles, Calif. - This invention has to do especially with apparatus for cleaning and brushing fruit to remove undesirable foreign matter adhering thereto; the invention also including apparatus for providing the fruit with a thin film-like coating of protective or preservative material of such character as to enhance its appearance and keeping qualities.

1,924,432 (Aug. 29, 1933; appl. Oct. 24, 1930). WASHER BRUSH AND HOLDER. Earl G. Griffith, Los Angeles, Calif. - This invention relates to brushes and brush holders and is particularly adapted for use in a commercial fruit washer used for washing oranges, lemons and grapefruit.

1,925,605 (Sept. 5, 1933; appl. Feb. 13, 1929). FRUIT WASHING MACHINE. Frank B. Roberts and Willis G. Huntington, Anaheim, Calif. - Food Machinery Corp., San Jose, Calif. - A citrus washing machine including fixed and movable brushes so arranged that two or more sides of the citrus fruit may be engaged simultaneously by a brush is described.

1,925,989 (Sept. 5, 1933; appl. Feb. 1, 1930). APPARATUS FOR TREATING FRUIT. Fred C. Neet, Pomona, Calif. - Brogdex Co., Winter Haven, Fla. - Apparatus for rubbing or brushing fresh fruit preparatory to marketing the same is described.

1,925,992 (Sept. 5, 1933; appl. Feb. 1, 1930). APPARATUS FOR TREATING FRUIT. Ernest M. Brogden, Pomona, Calif. - Brogdex Co., Winter Haven, Fla. - Apparatus for rubbing or brushing fresh fruit preparatory to marketing the same is described.

1,927,721 (Sept. 19, 1933; appl. July 12, 1929). CLEANING AND POLISHER. Frank M. Stevens, and Augustus R. Stevens, Lindsay, Calif. - Food Machinery Corp., San Jose, Calif. - A device for removing dirt, dust and other foreign matter from the skins of fruit and more particularly for fruit such as oranges, lemons, grapefruit and the like is described.

1,928,993 (Oct. 3, 1933; appl. Mar. 16, 1932). WIPER MECHANISM FOR FRUIT DRIERS. Frank W. Cutler, Portland, Ore. - Food Machinery Corp., San Jose, Calif. - This invention relates to fruit drying apparatus of the character in which the fruit is passed over a conveyor and dried by the absorbing action of a series of wiping members dragged over the fruit as it is conveyed by an endless carrier mechanism to which the wipers are secured.

1,934,833 (Nov. 14, 1933; appl. Jan. 23, 1932). PUMPLESS WASHER. Albert R. Thompson, San Jose, Calif. - Food Machinery Corp., San Jose, Calif. - A washer suitable for removing residual deposits of insecticide or fungicide from fruit comprises a liquid-containing tank in which is a plurality of rotatable brushes arranged in parallel relation.

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